September 24, 2007

Mr. Craig Wilkinson
TIMET
PO Box 2128
Henderson, NV 89009

Re.: Nevada Division of Environmental Protection Letter Regarding:
Response to NDEP Comments Dated June 6, 2007 on the Conceptual Site Model Dated April 25, 2007
Dated August 6, 2007
NDEP Facility ID# H-000537

Dear Mr. Wilkinson:

The Nevada Division of Environmental Protection (NDEP) has completed a review of the aforementioned document and provides comments in Attachment A. The NDEP is requesting that specific portions of the Conceptual Site Model (CSM) be resubmitted as a response to this letter. In addition, a fully annotated response to comments letter must be provided. Please be advised that these documents are defined as a Deliverable per Section I of the June 28, 1996 Phase II Consent Agreement. This Deliverable is due to the NDEP **by October 31, 2007**.

Should you have any questions or concerns, please do not hesitate to contact me at (702) 486-2850 x247.

Sincerely,

Brian A. Rakvica, P.E.
Supervisor, Special Projects Branch
Bureau of Corrective Actions

BAR:s

cc: Jim Najima, NDEP, BCA, Carson City
Mike Richardson, NDEP, BWM, Las Vegas
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Attachment A

1. General comment, the NDEP requests that select portions of the document be resubmitted as part of the response to this letter as listed below and as detailed in the comments below:
    a. Please submit revised, corrected versions of the following:
        i. Figure 2-5 (please be sure to address previous NDEP comments 29a through 29c as part of this revision);
        ii. Table 3-1
        iii. Table 3-2
        iv. Figures 3-4 through 3-7 with any additional source areas discussed. For example, U.S. Vanadium; the Unit Buildings, Buildings associated with the Henderson Technical Laboratory (Buildings K-53, K-55, etc.); etc.
        v. Table 4-2 through 4-9 (please note that as discussed in the July 11, 2007 meeting a DAF of 1 as well as a DAF of 20 must be presented for the leaching pathway);
        vi. Table 6-1, please insure that this Table addresses all identified data gaps and the applicable responses to comments (RTC). Examples follow (this is not a comprehensive list):
            1. RTC 18 (all sub-parts)
            2. RTC 19a
            3. RTC 20 (all sub-parts)
            4. RTC 35 (all sub-parts)
            5. RTC 40b
            6. RTC 44b
            7. RTC 57b
    b. Please submit the following new Figures:
        i. Figures for U-235 as discussed in RTC 54a.
        ii. A Figure depicting radon concentrations in groundwater.
2. RTC 2, TIMET's response does not address the NDEP's comment that the CSM does not identify how all data gaps will be addressed and the path forward to the project. NDEP expects that TIMET will provide additional details to the NDEP as a response to this letter. If TIMET needs additional time to consider this matter a date by which this item will be addressed must be identified.
3. RTC 8, please provide an explanation regarding how TIMET will address the issue raised in the original NDPE comment.
4. RTC 9, please explain how TIMET plans to address the various chemical species that are affected by redox conditions.
5. RTC 10, please note that the CSM is the basis to define the source-pathway-receptor model that is the basis for future risk assessment. Thus the qualification provided in TIMET's response is not appropriate.
6. RTC 12, please note that the areas "excluded" from the CSM should be shown as potential source areas, as applicable. For example, the WAPA and Southern Nevada Power Sites are known to be sources.

7. RTC 19a, TIMET states " The density of data may not be sufficient to substantiate this statement." with regards to the idea that the sand lenses in the second water bearing zone are discontinuous. NDEP agrees.
8. RTC 20d, please consider the development of a site-wide, analytical water budget. NDEP expects that the schedule for submittal of this item will be identified in the response to this letter.
9. RTC 20e, TIMET's response still does not provide any basis for the original statement. NDEP considers this statement conjecture. Nothing further is required.
10. RTC 26, TIMET states "Future discussions will be drawn from more recent subsurface investigations." It should be noted the NDEP's comment did not relate to the age of the data. The NDEP's comment dealt with the veracity of the data being used.
11. RTC 30, please be sure to present the PCB congener data for the baghouse dust as part of the technical memorandum for waste stream analyses.
12. RTC 33, TIMET notes that there is no depth associated with the near-surface source areas. This is confusing in that near-surface source areas are contained within other source areas. It is not clear to the NDEP how this will be addressed in future SAPs.
13. RTC 34a, please note that the NDEP does not concur with TIMET's response. The basis for using "indicator chemicals" has not been established. This is primarily due to the lack of broad suite analyses at the TIMET Site. It is suggested that TIMET consider a focused effort to conduct broad suite analyses across the Site in source areas. Once this effort is completed there may be a basis for using indicator chemicals.
14. RTC 34b, please explain how TIMET will determine where broad suite analyses are necessary. Please keep in mind that TIMET must be consistent with risk assessment methodology.)
15. RTC 35a, the NDEP has the following comments:
    a. Please resubmit a revised, corrected version of Table 3-1.
    b. TIMET indicates that a technical memorandum will be prepared which summarizes the available analytical data and proposes a process to address data gaps. RTC 2 does not identify a schedule to complete this item. Please identify the proposed schedule for completing this item. This item can be discussed on the next regularly scheduled status call.
    c. Figure 3-3 of the CSM shows "chlorinator bed dump", "chlorinator dust", "electrolytic salts", "runouts", "anodes" and a variety of other materials being sent to the J-2 landfill. Please provide a cross-reference to the analytical data for these waste streams.
    d. This issue should be incorporated into a decision tree for site characterization issues. Example provided below for a theoretical area of the Site. Please note that this example would only be one part of a larger decision tree, other issues besides wastes would need to be considered.
        i. What are the current and historical waste streams which may have affected sub-area X?
        ii. Are defensible, validated analytical available for each waste stream?
            1. If yes, proceed to characterization based on data.

2. If no, this is additional justification for a broader suite of analyses.

16. RTC 36, the NDEP has the following comments:
    a. Please resubmit a revised, corrected version of Table 3-2.
    b. RTC 36a, TIMET states that "detections of chromium, arsenic, sulfate, etc. in groundwater at monitoring locations along Lake Mead appear to be coming onsite as trespass contaminants." It is unclear to the NDEP what the source of contaminants could be. Please explain and provide documentation for this statement.
    c. RTC 36d, please explain if the CSD North and South ponds were ever used in an unlined fashion. If so, please note that the lined design depths are irrelevant.
    d. RTC 36e, please insure that this issue is listed in the data gaps table.
17. RTC 39, TIMET noted that cation-anion balance calculations are important to demonstrate the usability of the data. One of the uses of the data may be to differentiate plumes of contaminants from one another (as part of Site characterization). It would seem to the NDEP that TIMET would want to be certain that the data is usable prior to making these comparisons.
18. RTC 42, TIMET's response is not responsive to the original comment. Please re-review the NDEP's comment and respond. Specifically, please note if the boring logs indicate the presence of gypsum or not.
19. RTC 47b, please explain how TIMET will determine if it is appropriate to use qualified data. The NDEP notes that the USEPA [Data Usability Guidance, 1992] indicates that qualified data can generally be used in risk assessments.
20. RTC 50b, NDEP requests broad suite analyses of the wastes related to the magnesium recovery operations. It is expected that this will be addressed as part of the technical memorandum referenced above (RTC 35a) regarding waste stream analysis.
21. RTC 50c, please explain what it means to say that this data will be used "as appropriate".
22. RTC 52, please submit revised, corrected Figures.
23. RTC 54a, please submit the figures for U-235, at this time.
24. RTC 55a, please note that the Site characterization cannot be delayed pending the publication of USEPA data. Please include this issue on the revised data gap table.
25. RTC 63a, NDEP notes that this issue will also be addressed via the waste stream technical memorandum.
26. RTC 63f, the NDEP disagrees with TIMET's response. NDEP's original comment stated "General comment, in addition to complete exposure pathways, potentially complete pathways should be included at this stage of the CSM." TIMET's response proposes to defer this issue and decides to focus on the "most important exposure pathways". It is not clear how TIMET can unilaterally decide what the most important exposure pathways are in the first version of the CSM prior to the completion of site characterization. NDEP notes that TIMET should consider all exposure pathways at this time and make the evaluation more specific as additional data is collected. Until sufficient information is available and TIMET has provided

adequate documentation to the NDEP, all potentially complete exposure pathways must be considered.

27. RTC 63g, TIMET notes that data usability will be conducted in the risk assessment, however, as noted in RTC 63f TIMET appears to be conducting analyses which are a part of risk assessment. Hence, it is appropriate to complete some level of data usability assessment as part of the CSM.
28. RTC 67a, TIMET's response doe4s not address the NDEP's original comment as radon is not addressed. Please clarify.
29. RTC 69a, NDEP notes that radon appears to be elevated on the TIMET Site; radon is a radionuclide; radon is volatile and radon potentially poses a vapor intrusion threat. Hence, in future reporting radon must be addressed in this context (similar to VOCs). TIMET should also note that it has never been demonstrated that the radon concentrations on Site are naturally occurring.
30. RTC 70b, please quantify the word "trace' in TIMET's response.
31. RTC 72c, as previously requested, the current and future exposure scenarios should be split out on the figures. All potential pathways for current receptors and all potential pathways for future receptors should initially be included at this time as complete. USEPA guidance criteria should be used to identify all complete or potentially complete exposure pathways (USEPA, 1989). "A pathway is complete if there is (1) a source or chemical release from a source, (2) an exposure point where contact can occur, and (3) an exposure route by which contact can occur." (USEPA, 1989). TIMET has not provided rationale for evaluating some of the complete exposure pathways qualitatively. NDEP requests that <u>all</u> complete or potentially complete pathways be identified in the CSM at this time, that references to qualitative exposure evaluation be deleted from the current CSM, and that decisions regarding quantitative versus qualitative evaluation be made as a component of the Health Risk Assessment (HRA) (not as a component of the current CSM document). This request is based on the need for a completed HRA dataset and the conduct of sensitivity analyses such as bounding estimates (see below) to support decisions regarding the level of exposure assessment. NDEP requires that all significant pathways be assessed quantitatively in the HRA.
    a. Regarding bounding estimates, "The method used for bounding estimates is to postulate a set of values for the parameters in the exposure or dose equation that will result in an exposure or dose higher than any exposure or dose expected to occur in the actual population. The estimate of exposure or dose calculated by this method is clearly outside of (and higher than) the distribution of actual exposure or doses, If the value of this bounding estimate is not significant, the pathway can be eliminated from further refinement." (USEPA, 1992). "Not significant" can mean either that it is so small relative to other pathways that it will not add perceptibly to the total exposure being evaluated or that it falls so far below a level of concern that even when added to other results from other pathways, it will be trivial. Note that a "level of concern" is a risk management term, and the assessor must discuss and establish any such levels of concern with risk managers… before eliminating pathways as not significant." (USEPA, 1992).

b. Please revise and resubmit Figures 5-1 through 5-5. Additional comments are provided below.

32. RTC 72d, as previously requested, please split out on the CSM figures the potential current and future receptors. Insignificant pathways should not be shown for future receptors in this CSM document. Insignificant pathways shown for current receptors must be supported by site-specific rationale detailed in the text sections of the document. USEPA (1989, 1992, 1996, 2002) guidance criteria and site-specific data should be used to identify insignificant pathways in the HRA. For example, "infrequent exposure time" (e.g., footnote 8) is not alone an adequate basis for defining a pathway as insignificant. Also, please note that the NDEP expects that the exposure assessment will be conducted only as a component of the HRA.
33. RTC 72e, the point that NDEP makes in their comment is that contaminants can be transported from the location of the surface water to other exposure points via secondary release mechanisms (e.g., transport from the surface water via surface runoff) and/or tertiary sources (e.g., environmental "sink" areas to which surface water could be transported). In general, the text should provide detailed supporting information for the figures.
34. RTC 72f, we agree that the figures omit the secondary release mechanism and tertiary sources for future construction worker exposure to subsurface soil. Please add these components to the CSM figures. Please add (to the figures and text) the secondary release mechanisms for subsurface soil (e.g., emission of dust to outdoor air during construction activities, leaching of contaminants in subsurface soil) and the tertiary source(s) (e.g., outdoor air). Please note the NDEP expects that all pathways that are relevant for the construction worker (as defined by USEPA, 2002) will be identified as complete in the CSM text, figures, and associated footnotes.
35. RTC 72g, NDEP agrees that site data should be used in the HRA to support how exposure pathways are assessed in the HRA.
36. RTC 72h, the NDEP's comment addressed only the future scenario. The NDEP requests that the future commercial/industrial worker receptors be defined and evaluated as per USEPA guidance (USEPA, 2002, Section 4.1.3). Please note that for site-specific scenarios that are not default, risk management and closure decisions can only be made for the specific scenario (e.g., closure determinations will be limited to the exposure scenario(s) included in the HRA).
37. RTC 72i, please make the necessary edit to the footnote.
38. RTC 72j, it is acceptable to use the 0-1 foot bgs depth interval as the basis for surface soil exposure point concentrations (see note below). The 0-10 feet bgs depth interval should be used as the basis for exposure point concentrations for intrusive activities.
    a. If VOCs are detected in the 0-1 ft bgs depth interval, a discussion should be included in the HRA uncertainty analysis as to the representativeness of the concentrations for the 0-2 foot bgs depth interval.
39. RTC 72k, the NDEP reiterates that potential migration and exposure pathways associated with surface water should be included in the preliminary CSM. In regard to migration potential, contaminants can be transported from the location of the surface water to other exposure points via secondary release mechanisms (e.g., transport from the surface water via surface runoff) and/or tertiary sources (e.g.,

environmental "sink" areas to which surface water could be transported). Pathways for both current and default future scenarios (onsite and onsite) should be included. For example, an onsite outdoor worker could be exposed to surface water at the site. Please revise the figures accordingly.

40. RTC 73, TIMET response is not responsive to the NDEP's original comment. Please re-review the original comment and respond accordingly.
41. RTC 79, TIMET indicates that the future residential homegrown produce pathway will not be discussed in future submittals because "downwind residential areas are largely paved or covered with stone in this urban portion of the Mojave Desert." TIMET has no authority to deed restrict off-Site properties to forbid gardening hence the above-statement by TIMET is invalid. The residential homegrown produce pathway shall be addressed in future submittals.
42. RTC 82f, TIMET refers the NDEP to RTC 58 which states "Comment noted". Please provide a specific response to RTC 82f.
43. RTC 82k, please explain if the data used to evaluate the volatile disposal on the roadway was validated data or not.
44. RTC 82l, please note that "principal chemicals" must be defined in the resubmitted Table 6-1.
45. RTC 82x, please explain the depth that drilling obstacles have been encountered in previous investigations. Also, please explain what the drilling obstacles were. Please explain how this relates to expected depth of soil gas sampling (e.g.: 5-10 feet below ground surface).
46. RTC 82ff-4, please describe how specific SAPs will address unknowns associated with historic operations; unknown compositions of wastes, etc.
47. RTC 82ff-5, NDEP disagrees with TIMET's assertion that Unit Buildings are not sources. Unit Buildings have had a variety of uses throughout time. Please discuss the following, if TIMET asserts that the Unit Buildings are not sources:
    a. Discharges to the atmosphere from Unit Buildings and modeling to substantiate where these contaminants would have come to be located.
    b. Analytical data regarding the composition of air discharges.
    c. Spills or indiscriminate dumping associated with historic through current operations and how this may have affected the areas beneath and around the unit buildings.
    d. Composition of the building materials and whether or not these buildings contained asbestos.
    e. Discussion of the use of lead based paint on the Unit Buildings.
    f. Transport of materials and wastes within and around Unit Buildings.
    g. Integrity of the Unit Buildings' slabs, if there are cracks in the slabs these could be a pathway to the vadose zone.
48. RTC 82ff-8, please specify what the obstacles are that are being referenced in this RTC.
49. RTC 83a, TIMET notes that the PID readings are noted on the lithologic logs in Appendix B. NDEP notes that these readings were not discussed in the body of the report. The significance and purpose of these readings should be discussed.
50. RTC 83b, NDEP notes that TIMET's presentation of the XRF data is not appropriate. In the future, please discuss results within the body of the report.

51. RTC 83c, it appears that uranium data from the XRF data, however, "The remaining results were not impacted by this issue." If uranium data were the only data affected it is not clear why the remaining data were not used or discussed. Please explain.
52. RTC 83e-3, please note that deviation from an approved work plan is not acceptable. NDEP expects that the work will be substantially completed "as approved". In addition, the presence of the first water bearing zone has no bearing on the occurrence and concentration of VOCs. TIMET's response seems to imply that PID readings were not necessary below the first water bearing zone. Please note that elevated VOC concentrations are known to exist in portions of the BMI Complex below the first water bearing zone.
53. RTC 84, NDEP expects that the comments provided on the Data Validation Summary Report (DVSR) will be addressed by the August 9, 2007 resubmittal of the DVSR under separate cover. Please advise if TIMET envisions a different process.

Partial List of References

USEPA, 1989. Risk Assessment Guidance for Superfund, Vol. I, Human Health Evaluation Manual (Part A). Office of Emergency and Remedial Response, December. http://www.epa.gov/oswer/riskassessment/ragsa/index.htm

USEPA, 1992. Guidelines for Exposure Assessment. Federal Register 51(185) CFR 34028-34031. http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=15263

USEPA, 1996. Soil Screening Guidance: User's Guide. Office of Solid Waste and Emergency Response, May. http://www.epa.gov/superfund/resources/soil/index.htm

USEPA, 2002. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. Office of Solid Waste and Emergency Response, December. http://www.epa.gov/superfund/resources/soil/index.htm